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10 April 1961

MEMORANDUM FOR : Chief, Development Branch, DPD-DD/P  
SUBJECT : Usage Program - PWA-523 Fuel for OXCART

1. Preliminary discussions were held with Pratt & Whitney on 28 March 1961 concerning methods for gaining experience with PWA-523 fuel prior to A-12 initial flight scheduled for December 1961. Content of these discussions is presented herewith as an interim report, pending necessary inputs from the various interested parties.

2. The objectives of subject program should be to gain as much experience as possible in the areas of refinery production, transportation, handling, storage; and some operational experience. In order to satisfy these objectives, emphasis should be placed upon the following factors:

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(a) Fuel quantities should be large enough to prime the refinery and transportation system.

(b) Storage and transportation facilities should be representative of those intended for OXCART.

(c) Close fuel control and monitoring should be provided from refinery to vehicle.

(d) Some vehicle operational observation should be provided in order to detect any performance irregularities.

(e) Evaluation of engine effects should be made during hot section and overhaul inspections.

(f) Possibly aside from the main program, some water transportation (barge or tanker) experience should be realized.

(g) Most emphasis should be placed in the areas of production, transportation, handling, and storage.

3. Of the several possible usage alternatives discussed (which included SAC B-52's and Navy A3J's) the most promising appeared to be the U-2's based at Del Rio, EAFB, and post IRAN flights at Lockheed. Although insufficient quantities for a full refinery prime would be realized by using Del Rio, most other objective factors (para. 2) could be met. Typical storage facilities and close control are the

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primary advantages. It is understood that Del Rio fuel usage is approximately 1.5 million gallons per year. This quantity, which is felt to be a minimum requirement for the program, could be realized fairly quickly. A-12 and East Hartford usage in 1962 which might equal 6 and 3 million gallons per year respectively would bring the total usage up to approximately 10.5 million gallons per year.

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4. Although larger volumes are desired for economical production, it is understood that both [ ] are interested in submitting proposals to provide the fuel and technical representation for control and monitoring. Certain advantages and disadvantages between these refineries exist, however, one major advantage common to both is the technical representation capability. This advantage is probably not held by [ ]

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5. In order for proper fuel and engine monitoring, it is felt that Pratt & Whitney should be an interested party to any contract. Certain fuel monitoring factors such as dirt count, water count, thermal stability inspections, pre and post flight inspection, and JP-4 contamination limits from tankers are being compiled by Pratt & Whitney.

6. After further feasibility and definitizing discussions with interested Headquarters, USAF, Lockheed, and Pratt & Whitney parties, it is suggested that refinery proposals be solicited as soon as possible. Lead time before initial delivery is expected to vary from several weeks to 6 months.

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